

(No Model.)

A. D. PHELPS.
DOOR SPRING.

No. 530,852.

Patented Dec. 11, 1894.

Fig. 1.

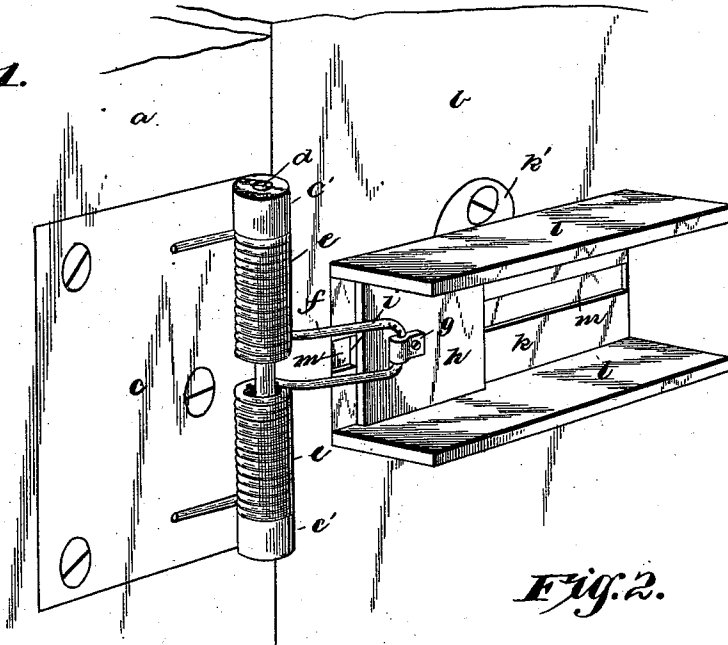


Fig. 2.

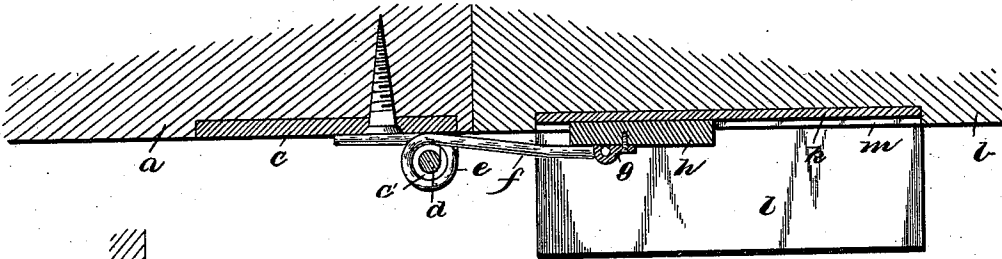


Fig. 3.

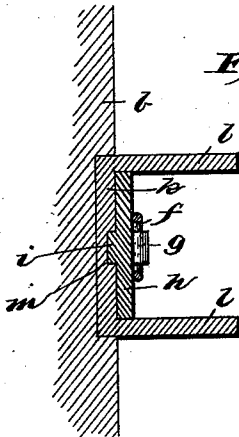


Fig. 4.

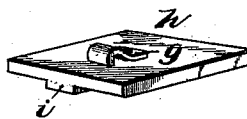
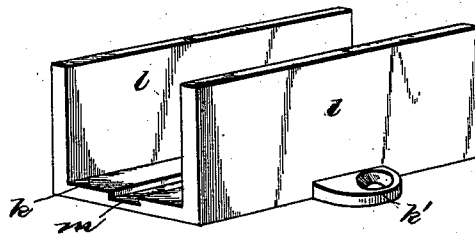


Fig. 5.



Inventor

Alton D. Phelps

Witnesses

W. F. Doyle
J. D. Stevens

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ALTON D. PHELPS, OF GALT, CALIFORNIA.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 530,852, dated December 11, 1894.

Application filed May 3, 1894. Serial No. 509,969. (No model.)

To all whom it may concern:

Be it known that I, ALTON D. PHELPS, a citizen of the United States, residing at Galt, in the county of Sacramento and State of California, have invented a new and useful Door-Spring, of which the following is a specification.

The invention relates to improvements in door springs.

10 The object of the present invention is to improve the construction of door springs, and to provide a simple and efficient one, which will not create the creaking noises, usually incident to such devices.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings: Figure 1 is a perspective view of a door spring constructed in accordance with this invention, and shown applied to a door. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse sectional view, the 25 section being taken through the sliding plate. Fig. 4 is a detail perspective view of the sliding plate. Fig. 5 is a similar view of the guide.

Like letters of reference designate corresponding parts in all the figures of the drawings.

30 Referring to the drawings, *c* designates an attachment plate secured to a door frame *a*, at the edge thereof, adjacent to a door *b*, and provided at its top and bottom with vertically 35 aligned eyes *c'*, arranged adjacent to the hinged edge of the door, and receiving a pintle *d*, upon which is mounted a spiral spring *e* connected with the door and the door frame, and adapted to hold the former normally 40 closed, and to close the same in the usual manner. The spring is constructed of a single piece of resilient wire or similar material, which is centrally doubled to form a loop arm *f*, and which is spirally coiled at opposite 45 sides of the loop and arranged on the vertical pintle *d*. The terminals *e'* of the wire, of which the spring is constructed, are extended outward to form arms which bear against the outer face of the attachment plate *c*.

50 The centrally arranged loop of the spiral spring is linked into the eye *g* of the sliding plate *h*, and the latter is rectangular, and is

mounted in a horizontal guide *k* mounted on the door, whereby when the door is opened and closed the plate *h* slides freely, and prevents any creaking of the spring, and at the same time avoids any unnecessary strain which would impair the efficiency of the spring and lessen its durability. The horizontal guide, which is provided at its top and 60 bottom with perforated ears to receive the fastening devices for attaching it to the door, consists of a flat plate and horizontally disposed parallel side flanges *l*, which receive and embrace the upper and lower edges of 65 the sliding plate, and form a way for the same. The sliding plate is provided on its inner face with a longitudinal rib *i*, which is arranged in a longitudinal groove *m* of the plate of the guide. The rib *i* is rectangular 70 in cross-section, and the groove *m*, which is formed in the outer face of the plate of the guide, conforms to the configuration of the rib. As the door is opened and closed the sliding plate moves freely back and forth in 75 the way formed by the guide, and enables the spring to perform its function of closing the door with great ease and efficiency, and it greatly contributes to the durability of the spring. 80

The attachment plate and the guide are let into the door frame and the door, and the outer face of the attachment plate, and the outer face of the plate portion of the guide, are flush with the adjacent faces of the door 85 frame and the door.

It will be apparent that the door spring is simple and comparatively inexpensive in construction, that it is adapted to be readily applied to a door, and that it is capable of operating noiselessly to close a door and maintain the same normally in that position. 90

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or 95 sacrificing any of the advantages of this invention.

What I claim is—

1. A device of the class described, comprising a spring designed to be mounted on a door 100 frame and provided with an arm, a guide designed to be secured to a door and provided with side flanges and forming a way, and a sliding plate mounted in the guide and em-

braced by the flanges thereof and connected with the arm of the spring, substantially as described.

2. A device of the class described, comprising an attachment plate provided with vertically aligned eyes, a pintle arranged in the eyes, a spiral spring mounted on the pintle and engaging the attachment plate and provided with a central loop, a horizontally disposed guide having parallel side flanges and provided between the same with a longitudinal groove, and a rectangular sliding plate arranged in the guide and embraced by the

flanges thereof and provided on its inner face with a rib arranged in said groove, said sliding plate being provided on its outer face with an eye and having the loop of the spring linked into the same, substantially as described. 15

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 20

ALTON D. PHELPS.

Witnesses:

EDGAR GIBBONS,
CHARLES C. CLEMENTS.